DOCUMENT RESUME

ED 154 288 CG 012 476

AUTHOR Steinglass, Peter
TITLE The Home Observation Assessment Method (HOAM): Real-Time Naturalistic Observation of Families in Their Homes.
PUB DATE Oct 77
NOTE 44p.; Paper presented at the Annual Conference of the National Council on Family Relations (San Diego, California, October 12-15, 1977) ; Tables may be marginally legible; Best copy available

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Data Collection; *Environmental Research; Family (Sociological Unit); *Family Environment; Family Life; Family Structure; Instrumentation; *Measurement Techniques; Research Design; *Research Methodology; *Research Tools

ABSTRACT

The vast bulk of psychosocial research data about the family are derived from two basic sources: self-report, retrospective data obtained by questionnaires or interviews; and direct observations of behavior occurring in a laboratory or treatment setting. Despite an emerging enthusiasm for the notion of studying behavior in its natural environment (spurred on particularly by the developing fields of ethology and ecological psychology), remarkably little research has been done utilizing in-home observations of American families. One possible reason for the discrepancy between rhetoric and action has been the difficulty in operationalizing the collection of data from the in-home setting and utilizing such data for systematic hypothesis testing. What little work has been done has been carried out primarily by participant-observers who live with the family and collect, by hook or crook, process notes of what they think is going on. Although such an approach is commonplace for the cultural anthropologist, very few family researchers have exhibited the desire or patience to carry out such work. This report presents a new method, the Home Observation Assessment Method, specifically designed to collect accurate data of interactional behavior in the home as it unfolds in a real time framework. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED154288

THE HOME OBSERVATION ASSESSMENT METHOD (HOAM):

REAL-TIME NATURALISTIC OBSERVATION OF FAMILIES IN THEIR HOMES

Peter Steinglass, M.D.

Center for Family Research
Department of Psychiatry and Behavioral Sciences
George Washington University School of Medicine

BEST COPY AVAILABLE

Prepared for presentation to the Theory and Method Workshop, Annual Meeting of the National Council on Family Relations, San Diego, October, 1977

(Not for Quote or Citation)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

P. Steinglass

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

CG 012476

INTRODUCTION

The vast bulk of psychosocial research data about the family are derived from two basic sources: self-report, retrospective data obtained by questionnaires or interviews; and direct observations of behavior occuring in a laboratory or treatment setting. Despite an emerging enthusiasm for the notion of studying behavior in its natural environment (spurred on particularly by the developing fields of ethology and ecological psychology), remarkably little research has been done utilizing in-home observations of American families. One possible reason for the discrepancy between rhetoric and action has been the difficulty in operationalizing the collection of data from the in-home setting and utilizing such data for systematic hypothesis testing. What little work has been done has been carried out primarily by participant-observers who live with the family and collect, by hook or crook, process notes of what they think is going on. Although such an approach is commonplace for the cultural anthropologist, very few family researchers have exhibited the desire or patience to carry out such work.

This report will present a new method, the Home Observation Assessment Method (HOAM), specifically designed to collect accurate data of interactional behavior in the home as it unfolds in a real time framework. The method was developed in conjunction with a major study of alcoholic families, but it was designed for wide applicability. To date, the HOAM has been in use for approximately 20 months. Data has been collected from 30 families during multiple observation sessions totalling over 400 in number.

The experience of developing and applying this new in-home observation technique has not only partially filled a gap in research methodology, but has also, we feel, led to several interesting prelimary conclusions regarding the nature of family interaction patterns as they unfold in the home setting. In addition to presenting this new method and reviewing research trends in this area, we want to share some of these preliminary conclusions based on our experience with the HOAM.

WHY A NEW METHOD

Was the development of a new in-home coding instrument necessary? In part, the HOAM was developed because the specific design characteristics of our current study not only included an in-home data collection component, but also demanded that data collected in this setting be roughly comparable in form to data collected in two other settings: a multiple-family

discussion group, and a family interaction laboratory. Initial exploration quickly demonstrated the infeasibility of applying existing interaction coding systems (e.g. Bales Interaction Process Analysis, Riskin and Faunce' Family Interaction Scales, Olson's coding system for the Inventory of Marital Conflicts). Only one coding system designed for on-line in-home observation has been previously described in the literature, Patterson's Behavioral Coding System (BCS). Although, as we will discuss shortly, this system has proven invaluable in designing the mechanics of the HOAM, it's coding categories address very different biases regarding behavioral analysis from the ones we have listed.

So there is obviously a paucity of available instruments in this area. However, the design of the HOAM was prompted as well by what, from the perspective of a clinical researcher, has been a series of disturbing trends in family interaction research over the past two decades. These trends which have been well documented in recent critical reviews of the literature (Waxler & Mishler, 1970; Riskin & Faunce, 1973; Jacob, 1975; Goldstein & Rodnick, 1975) have, in retrospect, been partially responsible for the inability of the field to fully realize its initial potential.

The first trend has been an interest in family pathology at the expense of an interest in normality. Although this trend is hardly unique to family interactional research, it has been particularly telling in the family field because of our difficulty in establishing appropriate baselines against which to judge pathological behavior. Jacob (1975), for example, notes that of all studies involving family observation done prior to 1968, over half involved a research design comparing schizophrenic with normal families; since 1968, over half of the comparable studies have compared "disturbed" with normal families.

A second trend has been a dominant interest in etiology at the expense of maintenance. By this distinction, we mean the difference between an interest in what causes a particular condition, versus an interest in what keeps the condition going. In many studies this distinction has simply not been made at all; other studies, although sensitive to this issue, addressed only the issue of etiology. For example, the early interest in family interaction research associated with the clinical work of schizophrenic families led to hypotheses about apparent disorders in parent/child relationships. This "disorder" was most frequently framed in terms of pathological communication, and both the design and conclusion of these studies attempted to suggest that pathological communication patterns "produced" schizophrenic children. The subjects for these families, however, were invariably families with chronic schizophrenic members. In retrospect, therefore, an appropriate conclusion would suggest an association between schizophrenic symptoms in individuals and certain styles of communication at the family level. The point is that research methods and designs have been developed as if etiological questions are being addressed, but subject populations are often inappropriate for such studies.

A third trend has been an emphasis on micro-analysis of interactional behavior; a tendency to divide interactional behavior into a series of "acts" or "speeches" which can then be subjected to quantitative analysis. Unfortunately, units of interaction are seldom defined in the same way across studies, making it extremely difficult to make meaningful comparisons across studies. The trend toward micronanalysis has also brought with it a heavy reliance on typescripts of recordings of verbal behavior (Mishler and Waxler, 1968; Riskin and Faunce, 1970a; Lenard and Bernstein, 1969). Consequently measures of quantitative variables has almost always meant verbal interaction, e.g., verbal interruptions, overlapping speech, and a heavy reliance on content defined coding systems.

A fourth trend has been the dominance of research designs utilizing the laboratory setting for one-shot observations of family interaction.

These trends have, in concert, left us in an extremely weak position as regards our knowledge about how the American family behaves in the location that is it's primary environment, it's home. Are our findings from the laboratory 1) generalizable to the home setting 2) truly characteristic of a particular family or merely representative of how that family behaves in a stressful situation when time has been condensed and distorted (e.g., decision-making in a one-hour session for a family that usually discusses an important decision for two weeks before arriving at a conclusion) 3) made trivial by our reliance on empirically-derived theoretical notions that we try to operationalize in the laboratory (e.g., taking a concept like "pseudo mutuality" or "double-bind" and translating it into verbal interactions that can be measured, such as "acknowledgment")? The only study reported thus far that used similar interaction measures in multiple settings (O'Rourke, 1963) did report significant differences in the behavior of family members as measured by a modified version of the Bales IPA.

How have these "trends" been taken into account in the design of the HOAM? A specific attempt has been made to develop an instrument that treats family behavior non-judgmentally and objectively. Coding decisions, as we shall see, deal with dimensions of interactional behavior that might be adjudged pathological only based on their cummulative pattern over extended time periods. In addition, the coding system attempts to minimize intrusiveness, thereby allowing the family maximal latitude to shape the pattern of their environment. Lastly, it allows observers to collect data over extended time-periods (up to four-hour sessions in the current study, but easily adaptable for almost any reasonable length of time). These points will become clearer when the HOAM is discussed in detail.

Let us return briefly to a discussion of previous family research that has utilized in-home observations as a component of data collection. Although several interesting studies have trained family members to make systematic observations of each other (e.g., Wills et al., 1974), and other studies have had individuals perform self-ratings in the

TABLE 1

A matrix of observer sources by observational settings: Systematic ordering of assessment procedures

Observer and Type of data:	Observational Settings		
	Laboratory	Home	Social Environment
Individual observation			
Perception of self	Mood Checklist	Interpersonal Check List (e.g., Luckey, 1961) Marital Status Inventory (Weiss & Cerreto, Note 5) Marital Happiness (Azrin et al., 1973) Stuart Precounseling Inventory (Stuart & Stuart, 1972) Marriage Inventory (Knox, 1972)	No data
Self-Tracking	On-line signalling (Katz, 1971) Self-Video Tracking (Margolin & Weiss, Note 3) (Eisler et al., 1973)	Behavioral Diary Pleasant Thoughts (Patterson & Hops, 1972) Marital Activities Inventory (Weiss et al., 1973)	Marital Activities Inventory (Weiss et al., 1973) Behavioral Diary
Spouse observation			
Perception of Spouse	Nonverbal Communication (Kahn, 1970)	Areas of Change Inventory (Weiss et al., 1973)	No data
Spouse Tracking	Signalling Devices (Thomas et al., 1971; Carter & Thomas, 1973; Katz, 1971) Video Tracking (Margolin & Weiss, Note 3)	Please-Displese Events (Weiss et al., 1973; Stuart, 1969; Rappaport & Harrell, 1972) Marital Activities Inventory (Weiss et al., 1973)	Marital Activities Inventory (Weiss et al., 1973)
Untrained other (e.g. peer or relative)			
Perception	No data	No data	No data
Tracking	No data	No data	No data
Trained other			
Analogue	Revealed differences (Strodbeck, 1951; Kenkel, 1963, Olson, 1969; Goodrich & Boomer, (1963) SIMFAM (Olson & Straus, 1972)	No data	No data
Tracking	Tracking problematic behavior (Carter & Thomas, 1973; Eisler et al., 1973a) Standardized decision-making (Olson & Ryder, 1970); Vincent et al., 1975) Behavioral samples (Hops et al., 1972)	Couple & or family interactions (Patterson et al., 1969)	No data

From: Weiss, R.L. and Margolin, G., "Marital Conflict and Accord," in A.R. Ciminero, K.S. Calhoun and H.E. Adams (eds.), Handbook for Behavioral Assessment, New York: Wiley, 1977, pp. 566-567.

home setting (see Table 1), we will concentrate only on studies that have utilized trained outside observers. A review of the literature has uncovered only eleven such studies. Of these eleven studies, six merely substituted the home for the laboratory, and then carried out standard family interaction testing procedures within this different setting. The O'Rourke study (1963) previously mentioned is an example here. A revealed difference technique was utilized to stimulate circumscribed family interaction, a transcript was made of this interaction, and the transcript was subsequently coded utilizing a modified Bales Interaction Process Analysis technique. The purpose of the O'Rourke study, was to specifically compare interactions stimulated by the same procedure in the laboratory setting versus the home setting. Other studies have merely utilized the home as a convenient setting to carry out such a procedure. Of the six studies that fit into this category, five utilize some version of a revealed difference technique, one utilized a family Rorschach technique. These studies are of only marginal interest to us in that they do not represent examples of naturalistic studies in the home.

The remaining five studies are all pertinent, however, and will therefore be mentioned in greater detail. Henry's (1965) study of schizophrenic families comes closest to naturalistic observation study in the tradition of cultural anthropology. Although he did not actually "move in" with the families under study, he spent extended periods of time with them, compiling elaborate process notes of interaction behavior observed during a variety of activities traditionally felt to be important components of family life (mealtime, family outings, shopping, home entertainment, etc.). The "methodology" might be summarized as follows: see everything you can see; use your own pattern recognition processes to organize your observations; head for the nearest empty room when there is a break in behavior and furiously write down whatever you can remember.

Two studies, also focusing on behavior in families containing psychotic members, added rating procedures to the process notes made by in-home observers. McCord, Porter and McCord (1962) assessed the influence of early environment on the development of psychosis by retrospectively examining reports of in-home observations made twenty years previously. The data itself came from an earlier study of childhood delinquency done during the 1930's in which a cohort of 255 families of school boys in Massachusetts were visited in their homes over a five-year period by observers who reported on such items as familial relationships, and the disciplined, and parental attitudes toward their children. Notes were compiled from repeated home visits, and the case records provided the "raw observation" data for the McCord study. The authors developed a set of ratings which characterized 150 aspects of the child's environment and character, and then applied this system to the task of rating the twenty-year old process notes available to them. An extremely interesting study, but a method obviously tailored to deal with the unique data available to the authors.

Behrens and Goldfarb (1958) studied twenty families of severely disordered, institutionalized children utilizing a single participant observation session covering a three hour time period which included a family meal. An extensive report of the observation session was made shortly after its completion, and a rating system was subsequently applied to this

written report. The rating system consisted of forty-seven separate items related to seven categories of family interaction. The categories included physical aspects of the home, marital interaction patterns, family interaction patterns, parental interaction patterns, parent/child interactions, child/child interaction, and mother's "pleasure response indecisiveness." Each item of family interaction was separately rated on a five-point scale However, an analysis of inter-category correlation indicated positively significant relationships at the .05 level among all categories. The authors correctly concluded that "this suggests that the different ratings appraised the same family behavior or dynamics." They therefore recommend a major collapsing of their forty-seven item coding system, but additional studies utilizing such a condensed version have not been published.

Perhaps the most ambitious in-home observation study in the literature is the one carried out by Kantor and Lehr (1974) in which 19 families (half schizophrenic, half normal) were extensively studied utilizing five types of data: participant observer reports, audio and video tape recordings of in-home family interaction, conjoint interviews of the family and separate subgroups in the families, projective psychological test results, and self-report data from individual family members. Unfortunately, their report of this study does not include information about how this data was analyzed, but it is our understanding that the main approach was one of clinical assessment and empirical judgments. For our purposes, the main value of this study, separate and apart from the theoretical models and hypotheses generated, was its assertion that families tolerate quite well the potential intrusiveness of such a study.

Finally, there are a group of studies carried out by Patterson and his colleagues, in which in-home observation was used both to examine a variety of theory related hypotheses, and evaluate the impact of experimental intervention programs. (Patterson & Reid, 1969; Weiss et al., 1973). These studies are the only examples in the literature of the use of an online coding system applied to in-home observations of families. It is also, in our opinion, a highly successful coding system, and was therefore carefully evaluated before a decision was made to develop a separate coding system for our study.

The Behavioral Coding System (BCS) divides interactional behavior into a series of stimulus behaviors and their elicited consequences. A series of twenty-one "behaviors" were operationally defined, and were felt to provide a rough but comprehensive list of the important social behaviors included in family interaction. Behavioral categories are divided into verbal and non-verbal, first order and second order groups (the latter distinction a priority rating to focus the observers attention preferentially on certain categories). Examples of verbal behaviors are: commands, crying, yelling, laughing. Examples of non-verbal behavior are: destructiveness, ignoring, negative physical behavior. A third category of behaviors that might be either verbal or non-verbal includes such codes as compliance, dependency, play, work. Elicited consequences are codes using a twelve-item system that includes such behaviors as attend, ignore, approval, physical contact, non-compliance, disapproval. Observations are recorded on a coding sheet that is divided into a series of lines, each line representing a thirty-second interval. A timer informs the observers of the end of each thirty-second interval, and recording then moves to the

next line. Each observer codes one family member at a time, and during a particular coding session codes each member of the family for a continuous interval of five to ten minutes. These coding intervals are interspersed with break or rest periods. Coding, using this system, is tiring and observation sessions therefore rarely exceed fifty minutes.

The BCS has proven particularly useful when the theoretical assumptions of the study are amenable to some form of a stimulus-response model. For example, Patterson and Reid have relied heavily on a version of social exchange theory, developing the notions of reciprocity and coercion as two forms of behavior-consequence interactions that might be used to meaningfully distinguish types of family interaction. The unique features of the home; its architecture, the traffic patterns of family members, interaction in relation to use of space, etc; are by and large ignored as meaningful variables in this coding system. Therefore, although the mechanical aspects of the coding system are useful and have in fact been adapted in the development of the HOAM, the theoretical biases that we bring to the use of in-home observation, and our special interest in collecting data over extended time periods mandated the development of a new coding method for in-home observation.

DESCRIPTION OF THE HOAM

Design Biases:

The design of the HOAM derives directly from three research biases regarding in-home observation. The first is a bias toward data obtained from the direct observation of behavior. This bias not only leads us to avoid the use of questionnaires or interview data; it also creates a bias against the use of technology that inadvertantly inserts itself between observer and subject (e.g., video and audio recording equipment). The second bias might be characterized as a predilection for the ecological approach to naturalistic research. Simply put, this represents a conviction that behavior is profoundly influenced by the context or setting within which it occurs, and care must therefore be taken to accurately preserve the naturalistic setting in the design of an observation instrument. The third bias is a preference toward measurable data as contrasted with process data. This bias is based on an assumption that behavior can be profitably studied by breaking it down into a series of structural components capable of objective measurement, components which are in effect significant descriptors of interactional behavior.

The first bias needs no further discussion. It is merely the preference of the clinical researcher to directly observe interaction rather than hear about it second or third hand. The second and third biases deserve some further explanation.

The Ecological Approach:

In his introduction to Pathways to Madness, the report of a naturalistic observation study of families containing schizophrenic children, Jules Henry states his conviction that "direct observation of families in their native habitat, going about their usual business, will furnish insights into psychotic breakdown and other forms of emotional illness, and suggest new ideas for prevention and treatment." In even more strident terms, he offers the following observation: "I am repelled by the artificiality of experimental studies of human behavior because they strip the context from life. They take away from it the environment, without which it has no meaning, without which it has no envelope." (p.xv)

These two points; the home as a logical setting within which to carry out naturalistic studies of families, and the importance of understanding the relationship between context and behavior; are by now supported by a substantial body of findings from two disciplines, social psychology and ecological psychology. The social psychology literature, especially in the area of small group research, has conclusively demonstrated that individual behavior is profoundly influenced by external or environmental variables in addition to internally or individually determined variables. Ecological psychology is, of course, a field specifically devoted to the study of the relationship between behavior and environment. Environmental factors, such as "setting," are typically treated as independent variables for data analysis often with dramatic result. Barker's studies of the effect of large versus small school settings on children's behavior is a classical example of such an approach. As this research tradition has evolved, setting as a contextual variable has come to mean not only physical location but also the people present within the setting. Mishler and Waxler (1971), for example, point to the difference in "family interaction" in the laboratory during a problem solving task depending on which siblings were present for the testing procedure. In addition, some researchers have included a time dimension in their definition of context as well. Particular attention has been paid to the sequential order of occurence of behavioral events. Raush (1974) in his study of marital conflict, for example, has argued that precedent interactional events become, in effect, a context determining the occurence of subsequent interactional events.

Structural Data:

Our bias toward the use of structural, measurable behavioral events is heavily influenced by the successful use of such dimensions in earlier naturalistic studies. Rebelsky and Hanks (1971) studied interaction between young infants and their fathers by attaching a microphone to the infant for a 24 hour period every two weeks. Rather than concentrating on the content of this interaction, they analyzed only the number and length of interactions, and reported that the mean number of interactions per day was 2.7, and the total length of time spent vocalizing per day was 37.7 seconds. A surprising finding, (even a cynical investigator

might have anticipated a lighter rate of interaction) subsequently cited frequently in the child development and family studies literature. Studies by Minuchin et al., (1969) and Flanders (1970) used simple categorical systems (who-to-whom speech, lengths of speech, teacher: child speech ratios) to record verbal interaction between children and teachers in the classroom setting and were able to use their data to differentiate various types of classroom settings and successfully predict scores on academic achievement tasks. Sociolinguistic studies (Mishler, 1975) have also relied on similar objective, structural data and demonstrated the effectiveness of such as approach.

Reflecting these three clinical and research biases, our in-home observation method has been developed with the following major characteristics and features:

1. It is designed to collect data in a real-time framework; that is, observations are carried out over extended time periods.
2. An attempt is made to preserve the natural relationship between behavioral events and meaningful contextual variables for these events.
3. Coding categories emphasize objective-structural variables rather than subjective-process variables.
4. The coding system is capable of generating sequential data regarding selected variables.
5. Content coding of verbal interaction is kept to a minimum. Where included, it is specifically theory related and relatively objectified.

How does the Coding Occur:

Coding is performed by a two person team of "behavioral-observers." In its current design, the method is intended for use in coding traditional nuclear families. Assuming such a two parent household, therefore, each observer is assigned to one spouse/parent in the family under observation. For the duration of the coding session it is the responsibility of the behavioral-observer to accurately record the behavior of the spouse/parent to whom he/she is assigned. Insofar as the spouse/parent interacts with other members of the family, the interactional behavior of the "family" will be recorded. If, on the other hand, the spouse/parent spends the entire coding session in a room alone, reading a newspaper, no interactional behavior will be recorded. All coding is done on line. Observers bring to the coding session a supply of coding sheets, clipboard, and an electrical timer which allows them to accurately record timed samples of behavior (to be described below). The behavioral observer is conceptualized as a "participant-observer" who will be "living with" a particular family for the time period of the observation (usually two to four hours). The "participant-observer" model seems an appropriate one to employ because it must be assumed that the coder, once he or she enters the family's home, has a specific although undetermined influence in shaping the behavior that subsequently occurs. The behavioral observer is trained to assume a passive and quiet role in the interactional field, allowing the family to mold him/her into the family's interactional pattern, rather than imposing one's own set on

BEHAVIOR CODING SHEET

Date _ _/_ _/_ _ (1-6) Family No. _ _ _ (10-12) Coder _ _ (19-20)

Type of Session _ (8) Subject _ _ _ (14-17) Sheet No. _ _ _

TIME (24-28)	ALC. (30-31)	LOCATION (33-56)						PERSONS IN FIELD (58-77)				PHYSICAL DISTANCE/ WHO TO WHOM SPEECH (30-57)				BEHAVIORAL CHARACTERISTICS (59-70)					T (72-73)	A (75-76)	O (78)
		1	2	3	4	5	6	01	02	03	04	01	02	03	04	PP	M	EO		MA			
_ _		33-34	35-36	37-38	39-40	41-42	43-44	05	06	09	99	05	06	09	99	PC	NO		CA				
_ _ 1		7	8	9	10	11	12									PN	S	EA	TC	W			
		45-46	47-48	49-50	51-52	53-54	55-56																
		1	2	3	4	5	6	01	02	03	04	01	02	03	04	PP	M	EO		MA			
_ _		33-34	35-36	37-38	39-40	41-42	43-44	05	06	09	99	05	06	09	99	PC	NO		CA				
_ _ 2		7	8	9	10	11	12									PN	S	EA	TC	W			
		45-46	47-48	49-50	51-52	53-54	55-56																
		1	2	3	4	5	6	01	02	03	04	01	02	03	04	PP	M	EO		MA			
_ _		33-34	35-36	37-38	39-40	41-42	43-44	05	06	09	99	05	06	09	99	PC	NO		CA				
_ _ 1		7	8	9	10	11	12									PN	S	EA	TC	W			
		45-46	47-48	49-50	51-52	53-54	55-56																
		1	2	3	4	5	6	01	02	03	04	01	02	03	04	PP	M	EO		MA			
_ _		33-34	35-36	37-38	39-40	41-42	43-44	05	06	09	99	05	06	09	99	PC	NO		CA				
_ _ 2		7	8	9	10	11	12									PN	S	EA	TC	W			
		45-46	47-48	49-50	51-52	53-54	55-56																
		1	2	3	4	5	6	01	02	03	04	01	02	03	04	PP	M	EO		MA			
_ _		33-34	35-36	37-38	39-40	41-42	43-44	05	06	09	99	05	06	09	99	PC	NO		CA				
_ _ 1		7	8	9	10	11	12									PN	S	EA	TC	W			
		45-46	47-48	49-50	51-52	53-54	55-56																
		1	2	3	4	5	6	01	02	03	04	01	02	03	04	PP	M	EO		MA			
_ _		33-34	35-36	37-38	39-40	41-42	43-44	05	06	09	99	05	06	09	99	PC	NO		CA				
_ _ 2		7	8	9	10	11	12									PN	S	EA	TC	W			
		45-46	47-48	49-50	51-52	53-54	55-56																

FIGURE 1

12

the family. For example, the behavioral observer never knowingly initiates interaction with family members but does respond to all questions, and occassionally asks questions of family members when critical information is needed to complete a particular coding sequence. In similar vein, the observer acceeds to all requests made of him/her by family members unless the request directly interferes with the ability to carry out coding tasks.

To further facilitate the smooth integration of coders into the home, it is made clear to subject families that it is they who are "in charge" of the observation session. It is their perogative, for example, to define certain locations in the house as off-limits to the behavioral observers. Issues related to privacy are handled in like fashion. Spouse/parents inform coders when they want the observers to back off for reasons of privacy, and all such requests are automatically honored. The issue of physical privacy is an obvious one; families are also informed before the initial observation session that requests for privacy, for example, to complete a sensitive phone call, are appropriate and will definitely be honored by the observers.

The critical "mechanical" design issue of the HOAM is the decision to have observers follow selected members of the family around their home environment, rather than preselect a particular area of the house where either a relatively stationary observer or a camera could be placed to record any interactional behavior that happens to occur in that particular field. The assumption is that what little advantage the stationary observer of the camera might have in minimizing interference with natural patterns of interaction, is far outweighed by the mobile observer's ability to accurately record the natural unfolding of the behavior of the member of the family being coded. Nevertheless, interference can still be minimized by training observers to be only sufficiently mobile enough to keep the assigned subject in view as much as possible and to be able to hear verbal interaction between the assigned subject and other people in the field. That has never, in our experience, required sticking to one subject like glue. In similar fashion, observers are trained to keep physical movements to a minimum. In particular they are shown how to avoid situations in which their physical presence constricts or makes unnatural a potential interaction that might occur.

The family under observation therefore accepts a two person team into their home, for periods up to four hours, and agrees to carry out, as much as is possible, their usual interactional behavior while these two "outsiders" follow two members of the household around the physical plant with clipboard in hand and an electrical timer periodically emiting a low but definitely audible buzz. Although the coders have become well known to the family over the course of multiple observations, they never reach the stasis of membership within the family often described as a feature of participant observation in anthropological studies.

One might reasonably argue that the coding method we are describing cannot help but be so disruptive of family life as to make the information collected meaningless. Obviously it is impossible to refute

such a contention with total conviction. However, we can report that families being observed did not themselves experience a disruption in their usual routines or in the flavor of their interactional behavior. By and large, families, although reporting a general sense of strangeness during the first two observation sessions, find themselves consciously ignoring the coders by the third or fourth session. In some families the initial sense of strangeness is associated with definite discomfort; in other families it is associated more with curiosity. But whatever the initial reaction of the family, family members (with the possible exception of young children) begin to treat the coders in a fashion analogous to the way a workperson might be treated in the home. My own family, having by now been the subject of more than fifteen observations for training purposes, verifies having had the same experience. We will, however, return to this issue in the Discussion section.

Structure of observation sessions:

The coding session is structured in the following fashion: The overall time block (two or four hours) is subdivided into active coding periods and rest periods. The two behavioral observers synchronously code up to four forty-minute time blocks, followed by fifteen-minute breaks. During these rest periods coding sheets are "cleaned up" and observers have an opportunity to cross check their judgements and resolve differences in coding decisions. Each forty-minute coding session is further subdivided into twenty two-minute time segments. Each observer is provided with an electronic timer that emits an audible signal every two minutes to indicate the start of a new coding segment.

During each two-minute time block, two types of coding decisions are carried out. The first verbal interaction that occurs between the observer's subject and any other person currently in the household is labeled the Initial Interactional sequence, and the coder is asked to render a series of coding decisions about this interaction (including some decisions about the content of the interaction). These interactions, because of the manner in which they are defined (to be discussed below), usually do not occupy an entire two-minute time segment. For the rest of the two-minute time segment, a series of objective coding decisions are made and recorded by the observer in the precise sequential order in which they occur.

Coding decisions are recorded on a coding sheet that reflects the above segmental arrangement of time during the coding session. (see Figure 1) As can be seen, the coding sheet is divided into a series of rows grouped in twos. Each group of two corresponds to a two-minute time segment, with the upper line used to code the Initial Interactional Sequence, and the lower line used to make sequential coding decisions for the balance of the two-minute time segment. Several examples will be given when we discuss specific codes to illustrate how the coding sheet is actually used.

Within each two-minute time block, four basic types of coding

decisions are carried out: context codes (location, persons in the field, interactional distance); behavioral characteristics codes; who-to-whom speech codes; and interaction codes (subjective judgments about the task orientation, affective level, and outcome of the Initial Interactional Sequence). All codes are specific enough to allow representation by number or letter, and symbolic notation on the coding sheet is adequate to represent all coding decisions. The coding sheet is also organized to correspond to the logical sequence of decisions that have to be made during the coding process. Computer card key punching can therefore be performed directly from the coding sheets with no further data reduction or translation necessary.

Description of the Codes:

A. Contextual Codes: These codes represent a series of objective, descriptive statements that can be thought of as establishing the physical context within which interaction occurs. They are the scene setters; facts that "set the stage" upon which a series of interactions are played. They included the two fundamental questions that can be asked about any interaction, namely, where is it occuring (location) and who is present (persons in the field). In addition, for those time sampled verbal interactions that are coded (Initial Interactional Sequences) the physical distance between interactants is also coded. The vast literature in social psychology about personal space and territoriality points to this particular descriptor as a critical contextual variable of interaction.

Because the HOAM was specifically developed for application in a study of families containing chronic alcoholic members, a specific code indicating the presence or absence of alcohol during a particular interactional sequence is also included. Obviously a wide variety of clinical conditions might be studied in a similar fashion, and specific codes developed for that condition. For example, a study of families with obese members might conceptualize food as a contextual variable for interaction. The HOAM could then be easily adapted to such a study. For our specific version of the HOAM, therefore, the contextual coding decisions include physical location, persons in the field, a judgment about interactional distance, and a statement about alcohol.

Locations are coded in consecutive order on the coding sheet, and therefore accurately reflect sequential movement of the subject from space to space within the home over the course of the observation session. Persons in Field are identified by an assigned number based on traditional family roles or relationship roles to the subjects being coded. For coding purposes, the "field" defined as a single location corresponding to one of the location codes. If the subject is in the living room, for example, then all other people in the living room are considered in the field and would be identified and noted. Physical distance is coded only for Initial Interactional Sequences and is a judgment made by the coder of the distance between the subject and all other interactants, coded on a six-stop, discontinuous scale (3,6,12,18,24, and greater than 24 feet).

SUMMARY OF CODES

I. CONTEXTUAL CODES:

A. LOCATION:

(LR)	Living Room
(DR)	Dining Room
(K)	Kitchen
(D)	Den or Study
(BR)	Bedroom
(MR)	Master Bedroom
(BS)	Basement
(H)	Hall
(FR)	Family Room or Recreation Room
(BA)	Bathroom
(G)	Garage
(FY)	Front Yard
(BY)	Back Yard
(LA)	Laundry Room
(ST)	Studio
(RR)	Recreation Room
(P)	Porch
(A)	Attic

B. PERSONS IN FIELD:

(1)	Father
(2)	Mother
(3)	Oldest Child
(4)	Next Oldest Child
(5)	Next Oldest Child
(6)	Next Oldest Child
(9)	Coder
(99)	Behavioral Observer
(18)	Family Relative
(28)	Parent's Friend
(38)	Child's Friend
(48)	Familiar Family Worker
(88)	Stranger
(58)	Boarder

C. ALCOHOL:

(CS)	Actively Consumed by Subject
(CO)	Actively Consumed by Other
(CM)	Actively Consumed by Subject and Others

C. ALCOHOL Con't.

(V) Visibly Present but not Consumed
(NV) Not Visible

D. PHYSICAL DISTANCE:

(3) 3 ft.
(6) 6 ft.
(12) 12 ft.
(18) 18 ft.
(24) 24 ft.
(99) Greater than 36 ft.

II. BEHAVIORAL CHARACTERISTIC CODE:

(TC) Telephone Conversation
(MA) Meal Activity
(EA) Entertainment - Alone
(EO) Entertainment - With Others
(W) Working at Home
(PP) Physical Contact - Positive
(PC) Physical Contact - Neutral
(PN) Physical Contact - Negative
(M) Movement
(S) Sleeping
(NO) Not Observable
(CA) Conversation with Animals

III. INTERACTION CODES:

A. TASK ORIENTATION:

(PI) Problem-Solving Task Related Only to Interactants
(PF) Problem-Solving Task Involving Other Family Members
(PO) Problem-Solving Task Involving Outsiders
(WT) Work Task
(IE) Information Exchange
(NC) Not Codable

B. AFFECTIVE LEVEL:

(+++) Warmth
(++) Supportive
(+) Understanding
(0) Neutral
(-) Questioning
(--) Disagree of Reject
(---) Anger, Attack

C. OUTCOME:

(+) Resolved or Completed
(0) Unclear
(-) Unresolved or Continued Conflict

B. Who-to-Whom Speech Codes: This code is intended to record the speech patterns of the subject being coded during that portion of the two-minute sequence after the Initial Interactional Sequence has occured. (The coding of physical distance provides similar data for the initial interactional sequences). The code records two types of events: speech initiations and speech receptions. Once again a simple number notational system is used for coding. Although sequential order of who-to-whom speech is not accurately recorded, comparisons can be made from one two-minute time segment to the next over the course of the coding session.

C. Behavioral Characteristics Codes: This code is intended to provide a running description of the behavior engaged in by the subjects during the observation sessions. The codes are purely descriptive, requiring little subjective interpretation by the coder, and are intended to identify major blocks of time devoted to specific activities by the subjects being coded. In addition, several behavioral characteristics codes, such as physical contact, are included for empirical interest.

D. Interaction Codes: As has been previously explained, a time sampling method is used to select the first verbal exchange between the subject and other members of the household during each two-minute time segment, and to make three content-related decisions about this verbal interaction: first, the type of interaction formulated in terms of "task orientation"; second, the affective level associated with the interaction; and third, the outcome of the interaction from the subject's perspective.

Of the three content-related decisions the coder is asked to make, only the "task orientation" decision requires some discussion. As it is currently designed, this aspect of the HOAM coding system focuses principally on the extent to which a particular interaction has as its central task one of three primary purposes: problem solving tasks, work tasks, and information exchange tasks. Although it is understood that all interactions involve information exchange to some degree, in some the information exchange is the primary task of the interaction, whereas in others it is in the service of some other primary task.

The decision to concentrate on problem solving as the critical content-related issue in the HOAM coding system was a theory related one, specifically tied to the theoretical model of chronic alcoholism used in the design of the study in question. This model, which concentrates on interactional factors that contribute to the maintenance of chronic drinking patterns, postulates a critical role for alcohol consumption and subsequent intoxicated behavior in the problem solving ventures of the family. The clinical evidence supporting this contention and a complete description of the theoretical model is available in other reports. (Steinglass, et al., 1971, 1977)Suffice it is to say at this point, that alcohol consumption is conceptualized in the model as potentially dealing with family problem solving at three different levels: an individual level, a family level, and at the level of the family's interaction with its environment.

Family problem solving behavior, as it has been extensively studied in the family research literature, is far too complex a series of behaviors and mechanisms to be comprehensively dealt with in an objective in-home observation coding system designed to code extensive periods of behavior. Consequently, problem solving had to be not only narrowly defined, but also defined in objective terms easily understandable to a behavioral observer. For the purposes of the HOAM system, therefore, problem solving is thought of as relating to the posing of a task that has a variable number of potential solutions, and the decision regarding the solution has not been made prior to the initiation of the interaction. Problem solving is therefore specifically differentiated from problematic situations. Instead, the coders are instructed to apply to each initial interactional sequence the question, "Is a decision called for in the task being undertaken?" If the answer is yes, then an a priori decision is made to label that interaction a "problem solving task."

Within the problem solving category, three further distinctions are made, intended to relate to the three levels of problem solving postulated by the theoretical model mentioned above. Problem solving tasks are therefore differentiated into those tasks related only to the interactants themselves; those tasks involving other family members not specifically part of the particular interaction being coded; and those tasks involving people outside the family. Again, the critical question is, who is included in the decision that is being called for by the verbal exchange being coded.

APPLICATION OF THE HOAM

Training of Behavioral Observers:

To date, five teams of behavioral observers have been trained and have used the HOAM for approximately 400 coding sessions of thirty separate families. Approximately one-half of the behavioral observers have been graduate students in the behavioral sciences (clinical psychology, anthropology, social psychology). The other half came from fields of study unrelated to the project (architecture, political science, English literature). Based on our experience to date, there is no apparent difference between these two types of behavioral observers as regards trainability, reliability in coding, or sensitivity to the task.

After experimenting with several training models a simple practicum approach was adopted which encompassed an eight-session training period. Training is divided into four phases:

Phase 1 is a review and mastery of the coding manual.

Phase 2 is a series of simulated coding sessions; a practicum to master the mechanics of the coding system. Observer trainees code a sample family role played by the research staff in one of our homes. Twenty minute coding sessions are interspersed with long discussions intended not only to answer the trainees' questions about coding decisions, but also to provide trainees with feedback regarding their "unobtrusiveness" skills.

Phase 3 is a series of extended coding sessions of real families (once again families of research staff). At this point trainees have increased their endurance to the required 40-minute limit with 15-minute breaks. During breaks, the research staff member and family members engage in a dialogue with the trainees about the coding session. Questions about coding decisions are ironed out on the spot, and specific suggestions regarding technique are fed back to trainees.

Phase 4 is a reliability check.

Reliability Checks:

Because the HOAM is an on-line coding system, it is obviously impossible to assess interrater agreement via traditional methods which assume the availability of the same material to code, e.g., a typed transcript or a videotaped recording. In addition, because each behavioral observer is coding a different subject, coding sheets cannot be reliably compared one to another. Special coding sessions using research staff families therefore had to be designed to formally assess interrater agreement. During these special sessions, both behavioral observers are assigned simultaneously to the same spouse and code that spouse for a forty-minute time block. A second forty-minute time block is used for simultaneous coding of the other spouse. Each reliability session includes at least these two forty-minute coding blocks, but may include a third block as well, time permitting. Lastly, during these sessions behavioral observers do not communicate with each other during breaks, as is standard procedure during regular coding sessions.

Table 2 summarizes the results of two separate reliability coding sessions for each of the six observer teams. Table 3 summarizes the overall interrater reliability figures for the six teams. Because of the nature of the different coding decisions being asked for, not all coding categories are assessed for interrater agreement in the same fashion. Several coding decisions (alcohol, task orientation, affect, outcome) represent single coding decisions and interrater agreement is a simple yes-no decision. Therefore, in Table 2, for Team A during session 1, of the twenty-four separate Initial Interactional Sequences coded, observers agreed twenty-one times regarding task orientation, twenty-four times regarding affect, and twenty-three times regarding outcome of the interaction.

For other codes, however, multiple entries are possible within the same coding line. For example, there can be multiple persons in the field, many who-to-whom exchanges, several interactants during an

Coding Category	TEAM A				TEAM B			
	Session 1		Session 2		Session 1		Session 2	
	Events	Reliab.	Events	Reliab.	Events	Reliab.	Events	Reliab.
Alcohol	33/48	.69	44/48	.92	40/41	.98	31/33	.94
Location	26/30	.87	42/52	.81	7/10	.70	25/30	.83
Persons in Field	38/48	.79	35/48	.73	24/41	.59	13/33	.39
Physical Distance	26/31	.84	19/20	.95	22/29	.76	14/17	.82
Who to Whom Speech	23/46	.50	4/5	.80	28/41	.68	20/33	.61
Behav. Char.	44/65	.68	48/67	.72	44/55	.80	37/54	.58
Task	21/24	.88	16/18	.89	15/21	.72	11/15	.73
Affect	24/24	1.0	17/18	.94	20/21	.95	15/15	1.0
Outcome	23/24	.96	15/18	.83	20/21	.95	15/15	1.0
Initial Interactional Sequence (Alcohol,Location,Persons in Field Physical Distance)	84/103	.82	65/74	.88	75/92	.82	50/62	.81
Total Content Codes	68/72	.94	48/54	.89	55/63	.87	41/45	.91
Total Context Codes	123/157	.78	140/168	.83	93/121	.77	83/113	.73

TABLE 2a

INTER-OBSERVER RELIABILITY RATING

Coding Category	TEAM C				TEAM D			
	Session 1		Session 2		Session 1		Session 2	
	Events	Reliab.	Events	Reliab.	Events	Reliab.	Events	Reliab.
Alcohol	30/40	.75	72/76	.95	23/36	.64	16/39	.41
Location	7/9	.78	55/58	.95	15/20	.75	15/19	.79
Persons in Field	39/40	.98	68/76	.89	18/36	.50	18/39	.46
Physical Distance	18/27	.67	31/39	.79	17/22	.77	24/27	.73
Who-to-whom	30/39	.77	40/48	.83	5/18	.28	12/33	.36
Behavioral Characteristics	41/50	.82	67/96	.70	18/38	.47	35/48	.73
Task	19/20	.95	33/36	.92	11/17	.65	18/19	.95
Affect	20/20	1.00	35/36	.97	16/17	.94	17/19	.90
Outcome	19/20	.95	33/36	.92	17/17	1.00	18/19	.95
Initial Interactional Sequence (Alcohol, Location, Persons in Field, Physical Distance)	73/87	.84	130/147	.88	60/73	.82	62/84	.74
Total Content Codes	58/60	.97	101/108	.94	44/51	.86	53/57	.93
Total Context Codes	94/116	.81	226/249	.91	73/114	.64	73/123	.59

TABLE 2b

INTER-OBSERVER RELIABILITY RATING

	TEAM E				TEAM F			
	Session		Session		Session 1		Session 2	
	Events	% Agreement	Events	% Agreement	Events	% Agreement	Events	% Agreement
Alcohol	28/28	1.00	40/42	.95	38/39	.97	22/36	.61
Location	13/13	1.00	75/80	.94	5/5	1.00	15/16	.94
Persons in Field	28/28	1.00	28/42	.67	34/39	.87	29/36	.81
Physical Distance	31/38	.82	20/30	.67	22/24	.92	15/26	.58
Who-to-whom	8/18	.44	17/24	.71	22/30	.73	5/7	.71
Behavioral Characteristics	33/35	.94	41/50	.82	37/42	.88	21/32	.66
Task	16/17	.94	21/21	1.00	18/20	.90	16/17	.94
Affect	17/17	1.00	20/21	.95	19/20	.95	16/17	.94
Outcome	17/17	1.00	20/21	.95	20/20	1.00	16/17	.94
Initial Interactional Sequence (Alcohol, Location, Persons in Field, Physical Distance)	82/89	.92	76/93	.82	76/84	.90	51/74	.58
Total Content Codes	50/51	.98	61/63	.98	57/60	.95	48/51	.94
Total Context Codes	100/109	.93	163/194	.84	99/107	.93	81/114	.71

TABLE 2c

TABLE 3

OBSERVER CODING: INTER-RATER RELIABILITY

All Teams, All Sessions

Coding Category	Events	% Agreement
Alcohol	417/506	.82
Location	300/342	.87
Persons in Field	372/506	.74
Physical Distance	259/330	.78
Who-to-Whom	214/342	.63
Behavioral Characteristics	466/632	.74
Task	215/245	.88
Affect	236/245	.96
Outcome	233/245	.95
Initial Interactional Sequence (Alcohol, Location Persons in Field, Physical Distance)	884/1,062	.83
Total Content Codes	684/735	.93
Total Context Codes	1,348/1,683	.80

initial interactional sequence, and multiple behavioral characteristics codes listed during a particular two-minute coding period. In these instances, the method of assessing reliability is defined in relation to the theoretical conceptualization of the specific coding category. For example, "persons in the field" is assumed to be a contextual variable which affects interactional behavior during that two-minute time sequence. Reliability is therefore assessed on an all or none basis. Observers must have 100% agreement within a particular coding box in order to receive credit for that coding category. Referring again to Table 2, for Team A during session 1, of the 48 separate coding lines filled in during the coding session, 38 times the observers were in total agreement regarding persons in the field. Obviously many more than forty-eight subject numbers might have been circled, and the present agreement is perhaps even more striking based on this definition. Who-to-whom, on the other hand, is a behavioral event, and each event rather than each coding line is treated separately.

Lastly, there is the location code, which is recorded in the sequential order of its occurrence. Reliability is therefore assessed based on agreement not only of the location itself, but on the sequential ordering of location codes as written on the coding sheet.

As can be seen in Tables 2 and 3, observer teams were able to achieve satisfactory levels of interrater agreement in all coding categories. The who-to-whom code clearly was the most difficult to achieve accuracy with, but the level of percent agreement approaches that reported for coding systems that are based on transcipts or taped interactions. Considering the number of coding decisions required by the HOAM, and the time periods required for continuous coding, the results of reliability coding sessions have been quite gratifying.

Representative Data:

A major advantage of the HOAM, is its online capacity to reduce data in a form that is computer compatible. An extensive series of programs have been developed that provide a) summary tables of the various coding categories (basically commulative frequency counts); b) temporal displays of interaction patterns; and c) graphic illustrations of selected dimensions of behavior (for example, a graph representing movement about the house during the observation session). Four examples of printouts generated by these programs are included with this report for illustrative purposes.

Table 4 is a summary table for selected context and content codes combining multiple observations from the first six families studied in our project with alcoholic families. A series of such summary tables have been developed utilizing the various codes of the HOAM. Note in Table 4 that each family has been coded for approximately thirty to forty hours. Also of interest is the frequency distributions of the various task codes, indicating the relatively low percentage of time spent in decision making activities (the problem-solving codes are PI, PF, and PO).

IN-HOME OBSERVATION TOTAL SUMMARY TABLE:
CONTENT AND CONTEXT CODES, FREQUENCIES AND MEANS
EACH FAMILY, ALL SESSIONS, ALL ROLES

**** INDICATES DIVISOR WAS 0.

FAMILY	HOURS CODED	TOTAL INIT. INTER	TOTAL SECONDARY INTER	ALCOHOL CODES (PERCENT) CH	CS	CD	V	NV	INTER DIS (MEAN)	TASK CODES (PERCENT) PI	PF	PO	WT	IE	NC	AFFECT	OUTCOME(PER) +	0	-
12	38.0	764	417	0.0	0.12	0.11	0.01	0.76	7.7	0.09	0.01	0.00	0.14	0.74	0.02	0.86	0.97	0.02	0.01
13	32.9	718	428	0.0	0.11	0.08	0.70	0.12	7.7	0.10	0.01	0.02	0.12	0.75	0.00	0.86	0.91	0.03	0.06
14	28.7	371	157	0.0	0.0	0.0	0.00	1.00	8.3	0.05	0.00	0.00	0.06	0.87	0.02	0.81	0.92	0.03	0.05
15	42.2	1100	667	0.0	0.0	0.0	0.0	1.00	6.5	0.05	0.00	0.01	0.07	0.82	0.05	0.95	0.92	0.06	0.01
16	37.9	795	406	0.28	0.14	0.11	0.11	0.37	5.1	0.07	0.01	0.01	0.10	0.80	0.02	0.77	0.95	0.02	0.02
17	32.7	479	227	0.0	0.0	0.0	0.0	1.00	6.4	0.07	0.01	0.0	0.15	0.77	0.01	0.63	0.91	0.03	0.06

TABLE 4

IN-HOME OBSERVATION TOTAL SUMMARY TABLE:
RATIOS BETWEEN POTENTIAL, PHYSICAL, AND VERBAL CONTACTS
EACH FAMILY, ALL SESSIONS, ALL ROLES EXCEPT S AND 99
UPPER AND LOWER LINES TREATED AS ONE

**** INDICATES DIVISOR WAS 0

	PHYSICAL/POTENTIAL	VERBAL/POTENTIAL	VERBAL/PHYSICAL
FAMILY 12	1203/ 4037= 0.30	1016/ 4037= 0.25	1016/ 1203= 0.84
FAMILY 13	1274/ 2281= 0.56	999/ 2281= 0.44	999/ 1274= 0.78
FAMILY 14	378/ 1555= 0.24	296/ 1555= 0.19	296/ 378= 0.78
FAMILY 15	1596/ 3009= 0.53	1374/ 3008= 0.46	1374/ 1596= 0.86
FAMILY 16	1414/ 2985= 0.47	1081/ 2985= 0.36	1081/ 1414= 0.76
FAMILY 17	999/ 1827= 0.55	563/ 1827= 0.31	563/ 999= 0.56

IN-HOME OBSERVATION FAMILY/SPOUSE DISPLAY TABLE-
PRESENCE IN HOME VS. PRESENCE IN FIELD VS. VERBAL INTERACTION OVER REAL TIME
EACH FAMILY, EACH SPOUSE, EACH SESSION
UPPER AND LOWER LINE TREATED AS ONE

ARRANGED BY DATE

- REPRESENTS PRESENCE IN HOME FOR THAT 2-MINUTE SEGMENT
O REPRESENTS PRESENCE IN FIELD FOR THAT 2-MINUTE SEGMENT
X REPRESENTS VERBAL INTERACTION IN THAT 2-MINUTE SEGMENT

FAMILY 14 SESSION, 60576-1

	H	----------X-O-------	--XX-XO----------	----------	----------XO----	-----
HUSBAND/WIFE	W	----X-O-------	--XX-XX----------	----------	----------XO----	-----
	H	----------X-O----X--	--XX-XO----------	----------	----------XO----	-----
INTRAFAMILY	W	X---X-O------X	--XX-XX----------	----------	----------XO----	-----
	H	----------X--	----------	----------	----------	-----
PARENT/CHILD	W	X----------X	----------	----------	----------	-----
	H	----------X--	----XXO--OOOO-------	----------	----------	X----
SUBJ./OBS.	W	X--XX-----XXXX	----XOOX----------	----------	XO-----O----------	-----
		1210	1305	1400	1455	1550

FIGURE 2b

IA-HOME OBSERVATION FAMILY/SPOUSE OCCURRENCE OF PROBLEM SOLVING
CODES AND ALCOHOL CODES OVER REAL TIME
EACH FAMILY EACH SPOUSE, EACH SESSION, ALL ROLES
INITIAL INTERACTIONAL SEQUENCE ONLY

ARRANGED BY DATE

FAMILY 15W

SESSION 50776-1
PROB-SOLVING TASK
CODES (PI,PF,PO) I I

ALCOHOL CONSUMP
CODES (CS,CM,CC)

1710 1805 1900 1955

SESSION 51176-2
PROB-SOLVING TASK
CODES (PI,PF,PO) I

ALCOHOL CONSUMP
CODES (CS,CM,CC)

1725 1820 1915

SESSION 60676-3
PROB-SOLVING TASK
CODES (PI,PF,PO) I II I

ALCOHOL CONSUMP
CODES (CS,CM,CC)

1210 1305 1400 1455 1550

SESSION 60976-1
PROB-SOLVING TASK
CODES (PI,PF,PO) I I

ALCOHOL CONSUMP
CODES (CS,CM,CC)

1710 1805 1900 1955 2050

FIGURE 3

Table 5 is an example of behavioral indices that can be developed utilizing the coding categories and behavioral data generated by the HOAM. The particular indices in this Table reflect interaction activity rates utilizing selected aspects of HOAM data. "Potential contacts" represents the total number of people present in the home multiplied by the number of separate two-minute coding periods during which that particular family was being observed. "Physical contacts" are the number of times the person being coded came in contact with another person in the home and are obtained from "persons in field" data. (Behavioral observers are not included in any of these indices.) "Verbal contacts" are obtained from who-to-whom data and initial interactional sequence data. As can be seen in Table 5, families vary dramatically on these various indices.

Figures 2 and 3 are examples of temporal displays of interactional patterns that can be easily generated by the HOAM. Figure 2a, which should be self explanatory, indicates the specific interaction patterns over the course of a single observation session for husband and wife. Note the following items: First, the numbers below the bottom line represent military time. Second, the separate lines for husband and wife interacting with each other provide an interesting coder reliability check. As can be seen, although husband and wife are separately coded, as regards their interactions with each other, there is remarkable consistency between the two observers. Third, of course, is the dramatic difference between Family 16 (Figure 2a), a family with a mid-range activity rate (see Table 5), and Family 14 (Figure 2b), a family with a remarkably low interaction rate. Both sessions presented in Figure 2 were weekend coding sessions, although as can be seen the time periods varied. Both families were coded over multiple sessions, and printouts of the other sessions are quite consistent with the sample figures that are presented.

The last illustration, Figure 3, is a temporal display of the occurence problem-solving codes and alcohol codes. Impressed by what appeared to be strikingly low frequencies for problem-solving codes, we prepared a separate temporal display to illustrate the pattern of occurence of problem-solving task codes. Since the study centered around alcoholic families, the occurence of drinking was also noted on the same display. Figure 3 presents the activity as regards these codes of the wife in Family 15 over four separate coding sessions. As can be seen, although approximately 15 hours of coding is recorded, this subject engaged in only 9 coded interactions with another family member that entailed decision making behavior.

Once again, this data is being presented strictly for illustrative purposes. However, we will discuss several of these findings in somewhat greater detail when we move on to the discussion section.

DISCUSSION

Although we have presented what we feel is a mechanically sound system for collecting objective data in the home setting, the ultimate value of such a method is obviously dependent on its ability to generate meaningful data. In part, this decision can be made via the traditional route of establishing the validity of the HOAM. However, the HOAM has two unique design features that should be separately discussed as well. The first is the specific style of behavioral observation it employs. The second is its reliance on coding decisions that allow for extended rather than brief observation sessions. We'll discuss these two issues first, and then describe where things stand at the moment as regards traditional measures of instrument validity.

The issue of style of behavioral observation is a problem that has plagued the whole field of naturalistic research. The central issue is the extent to which the observation procedure itself modifies the behavior under observation, and in so soing negates the design advantages that accrue from studying behavior in its natural setting. To what extent do we see the "real" behavior of family members when we insert strangers in their midst who follow them around with clipboard and timer, pretending to be unobtrusive and merely part of the woodwork? Can we rely on the virtually unanimous report of both our observers and our subjects that families were unaffected by the coders after one or two observation sessions? Furthermore, many of the theoretical notions that underlie the development of the HOAM (for example the sensitivity to the relationship between context and behavior) are rooted in general systems models. If our goal is the collection of interactional data that addresses what we feel are basic behavioral processes related to family systems, how can we defend at all the use of a behavioral observer? A systems theorist would most likely argue that the introduction of a behavioral observer changes, virtually by definition, the nature of the system under study, and it would be most difficult to conclude that findings obtained via such a technique were truly representative of the "family system" itself.

The research literature has proven of only marginal value in helping us to resolve this dilemma. An extensive review by Kent and Foster (1977) indicated that although interest in this question dates back 25 years, and a long series of studies have now been performed attempting to assess the effect of observer presence on subject behavior, findings must be ajudged equivocal at best. For example, Patterson and Reid have compared behavioral assessments of the interactional behavior obtained via inter-spouse tracking procedures with behavior in the same family obtained by behavioral observers, and have demonstrated significant differences in reported behavior for the same families. On the other hand, several studies purport to demonstrate that the introduction of observers into such settings as classrooms has no apparent effect on ongoing behavior within those settings. Other studies, although concluding that certain behaviors were affected, found that other behaviors within the same study were unaffected by the presence of an observer. Kent and Foster conclude that although the evidence that such factors as expectation bias (researchers expectation influencing observer judgment) and direct effect of observer presence clearly have been shown to influence aspects of the behavior under study, a critical issue has been the reactivity of the specific behaviors being measured.

IN-HOME OBSERVATION FAMILY/SPOUSE DISPLAY TABLE-
PRESENCE IN HOME VS. PRESENCE IN FIELD VS. VERBAL INTERACTION OVER REAL TIME
EACH FAMILY, EACH SPOUSE, EACH SESSION
UPPER AND LOWER LINE TREATED AS ONE

ARRANGED BY DATE

- REPRESENTS PRESENCE IN HOME FOR THAT 2-MINUTE SEGMENT
O REPRESENTS PRESENCE IN FIELD FOR THAT 2-MINUTE SEGMENT
X REPRESENTS VERBAL INTERACTION IN THAT 2-MINUTE SEGMENT

FAMILY 16 SESSION 40476-3

FIGURE 2a

We would concur with this judgement, and with the obvious conclusion that modification of subject behavior will be directly proportional to the potential reactivity of the dimensions being measured. The HOAM seems on particularly firm ground as regards this issue, insofar as a specific attempt has been made to select behavioral measures that we assume to be relatively non-reactive in nature. Although we might expect that behavioral indices of intimacy or conflict, for example, might be altered in the face of an outside observer, it seems much less likely that individuals would significantly alter such aspects of behavior as physical motility, interactional distance, or speech rates. Similarly, although we might anticipate certain distortions in speech content, ("private" matters might not be openly discussed in front of observers), problem solving as specifically defined in the HOAM coding system, is relatively non-reactive as a verbal content code.

Although systematic data has not been collected to examine this particular point, clinical impressions of behavioral observers and interviewing of research subjects supports the contention that the HOAM is a basically non-reactive coding instrument. Observers, as we have already noted, felt comfortable and free to do their work during their coding sessions. The basic routines of family life seemed unaffected by their presence. Although it seemed clear that extremes of behavior would not be manifested in the presence of observers (there have been, for example, no examples of physical abuse during coding sessions) observers have been suprised at the extent to which families seem comfortable in discussing openly what coders felt were "sensitive" issues.

This evidence that the HOAM is in a relatively strong position vis-a-vis its impact on the behavior it is studying, still does not settle, however, our initial question about our level of confidence that the behavior we code is truly representative data regarding family life. Because this question cannot, by definition, be definitively answered, the next best strategy is to finesse the issue by conceptualizing the family's behavior as a manifestation of its relationship with the research study. The approach then becomes one of assuming that our selected sample of family behavior accurately reflects this relationship and that families can be meaningfully compared one with another. The underlying assumption, of course, is that the family's behavior as research subjects tell us something about both the family's style of behavior in general, and predicts the families behavior in other parallel situations.

This approach has been used quite effectively by Reiss (1971) in his studies of family problem-solving behavior in a laboratory setting. Rather than label the specific behavioral techniques and interactional behavior the family manifests in such a setting their "true" problem-solving behavior, he has instead taken the tack that the laboratory represents a "novel social situation" and the family's behavior in this setting is representative of dimensions of behavior the family brings to all novel social situations. Behavioral indices are therefore utilized as a reflection of the family-laboratory interaction, and a typology of families is developed based on this conceptual framework.

In our current study of alcoholic families our research design pays particular attention to the behavior of families in three very different environmental settings: the home, a multiple family discussion group, and the family interaction laboratory. As we have mentioned, this design stems from our theoretical interest in the relationship between environmental context and interactional behavior. The three settings are therefore conceptualized in terms of the relative influence of the family versus the researcher in determining or controlling the critical dimension of the environment. In their own home, the family presumably has maximal control over contextual dimensions; in the laboratory the researcher forces the family to interact within environmental and contextual constraints predetermined by the laboratory procedure itself. The HOAM therefore specifically measures the way the family sets up contextual variables in the setting that it maximally controls.

The second design feature we wanted to discuss is what we have been calling the HOAM's unique ability to provide data collected in a real-time framework. Although on one level, we are referring merely to the ability to collect observational data over extended time periods, on a more important level we are addressing the concept of time as an important dimension shaping family life. A characteristic aspect of virtually every laboratory procedure measuring interactional behavior is its distortion of time. This distortion usually occurs in the direction of a condensation of time. Procedures designed to model fundamental dimensions of interactional life, such as problem-solving or conflict resolution, establish specific or implied time constraints within which interactants have to complete the task. Although enough leeway often is built into the procedure to allow for meaningful variability from family to family (amount of time they take to complete the task), problem-solving in the laboratory bears little temporal resemblance to problem-solving in "real-life" situations. Although occasional crises arise in the family life that demand decision making within a time frame analogous to that of a laboratory procedure, by and large decision making in everyday life unfolds at a far more leisurely pace.

Our preliminary findings (see Sample Data Section) emphasize this point even more strongly. Decision making as defined by the HOAM coding system (Problem-Solving Codes) appears to occupy only a small percentage of the family's time during the specific observation sessions we have thus far coded. If these coding time periods prove to be representative of routine family behavior, then most families can "manage" with remarkably few decisions being called for. Although we appreciate, as mentioned above, that this data is reflective of the families' behavior within a research study, it seems nevertheless remarkable how "automatic" much of the family's interactional behavior seems to be.

Several reactions to these early findings might be worth introducing into the discussion at this point. Our first reaction, of course, might be to dampen any early enthusiasm and conclude that these findings are merely reflective of the family's desire to wait until we are gone before making their decisions. A second speculation might be that we are studying families during relatively non-stressful time periods in their lives. The first assumption is certainly a possiblity, although a cynical one. The second assumption is refuted by two aspects of our clinical data. First, a number of families we have studied so far had major crises occur during the course of the study. These crises included deaths in the family, job losses, financial setbacks, school crises, and flareups of previously dormant alcoholic drinking patterns.

Second, many families apparently volunteered for the study as an alternative to traditional treatment. These families identified themselves as having a significant "problem" with alcohol and saw the study as potentially offering solutions to their problems.

A third speculation is that decision-making does in fact comprise only a remarkably small component of a family's interactional behavior. The vast majority of behavior is addressed instead, to what we might call routine maintenance. If these speculations have any substance, then it suggests that not only the typical laboratory but also the typical treatment setting, by condensing the time dimension of behavior, introduces a fundamental distortion into the interactional behavior under observation. Behavior that occurs within such settings therefore might represent a highly unique rather than typical example of the families interactional behavior, in effect a special set of behaviors the family calls into play only in "dramatic" atmospheres. (We might even aruge, in this highly speculative fashion, that the typical treatment setting increases its effectiveness by producing such a dramatic atmosphere via a condensation of time. The setting then becomes unique and atypical for the family, eliciting new types of behavior and breaking into more mundane, more characteristic interactional patterns.)

Finally, a brief word about validity. We have reported an initial attempt at establishing the instrument validity of the HOAM, our interrater behavioral observer reliabilities. Although many coding systems have stopped at this point regarding establishment of instrument validity, we realize that such an approach is totally inadequate when examining the usefulness of an on-line coding system such as the HOAM, both because its coding dimensions are somewhat atypical, and because it is a relatively expensive procedure. The only previous example of an on-line, in home observation system, Patterson's BCS, has been extensively investigated for content, concurrent, and construct validity (see Jones et al., 1975). The validity of the HOAM has not yet been similarly investigated. However, we have a high conviction regarding the content validity of the instrument, if one accepts the three fundamental theoretical biases discussed in the introduction to this report. We are gathering extensive "debriefing" information from behavioral observers to examine concurrent validity via comparisons of objective ratings and subjective ratings of families and are encouraged by preliminary findings. Lastly, a major goal of our current research project, the development of a typology of families based on HOAM data that can predict not only family behavior in other settings, but also clinical prognosis, will address the issue of construct validity.

BIBLIOGRAPHY

Barker, R.B. Ecological Psychology. California: Stanford University Press, 1968.

Behrens, M. and Goldfarb, W.A. Study of patterns of interaction of families of schizophrenic children in residential treatment. Amer J Orthopsychiat., 28: 300-312, 1958.

Brandt, R.M. Studying Behavior in Natural Settings. New York: Holt, Rinehart, & Winston, 1972.

Behrens, M. and Sherman, A. Observations of family interaction in the home, Amer. J. Orthopsychiat., 29: 243-248, 1959.

Ferriera, A. and Winter, W. Family interaction and decision-making. Arch Gen Psychiat., 13: 214-223, 1965.

Flanders, N.A. Analyzing teacher behavior. Reading, Mass: Addison-Wesley, 1970.

Goldstein, M. and Rodrick, E. The family's contribution to the etiology of schizophrenia: current status. Schiz. Bull, Issue 14: 48-63, 1975.

Henry, Jules. Pathways to Madness. New York: Random House, 1965.

Jacob, T. Family Interaction in Disturbed and Normal Families: A Methodological and Substantive Review. Psych. Bull, 82: 33-65, 1975.

Jones, R.R., Reid, J.B. and Patterson, G.R., "Naturalistic observation in clinical assessment," in McReynolds, P. (ed.) Advances in Psychological Assessment. Vol. 3., San Francisco: Jossey-Bass, 1975, pp. 42-95.

Kantor, D.and Lehr, W. Inside the Family, San Francisco: Jossey-Bass, 1975.

Kent, R.N. and Foster, S. L., "Direct Observational Procedures: Methodological Issues in Naturalistic Settings," in A. Ciminero, K. Calhoun and H. Adams, Handbook of Behavioral Assessment, New York: John Wiley & Sons, Inc., 1977.

Lennard, H., Beaulieu, M., and Embrey, N. Interaction in Families with a schizophrenic child. Arch Gen Psychiat 12: 166-183, 1965.

Lennard, H. and Bernstein, A. Patterns in Human Interaction. San Francisco: Jossey-Bass, 1969.

Minuchin, P., Biber, B., Shapiro, E., and Zimilies, H. The psychological impact of school experience. New York: Basic Books, 1969.

Mishler, E. and Waxler, N. Interaction in Families. New York: John Wiley and Sons, Inc., 1968.

Mishler, E. and Waxler, N. Parental interaction with schizophrenic children and well siblings. Arch Gen Psychiat, 25: 223-232, 1971.

Mishler, E. Studies in dialogue and discourse; an exponential law of successive questioning. Lang Soc. 4: 31-51, 1975.

O'Rourke, J. Field and Laboratory: The Decision-Making Behavior of Family Groups in Two Experimental Conditions. Sociom 26: 422-435, 1963.

Patterson, G. and Reid, J. Reciprocity and Coercion: Two facets of social systems, in Neuringer, C. and Michael, J. (Eds.), Behavior Modification in Clinical Psychology. New York: Appleton, Century, Crofts, 1969.

Raush, H.C., Barry, W.A., Hertel, R.K. and Swain, M.A. Communication, Conflict and Marriage, San Francisco: Jossey-Bass, 1974.

Rebelsky, F. and Hanks, C. Fathers' verbal interaction with infants in the first three months of life. Child Devel. 42: 63-68, 1971.
****(see below)
Riskin, J. and Faunce, E. Family Interaction Scales, I. Theoretical Framework and Method. Arch of Gen Psychiat 22: 504-512, 1970a.

Riskin, J. and Faunce, E. An Evaluative Review of Family Interaction Research. Family Process, 11: 365-455, 1972.

Sears, P.S. The effect of classroom conditions on the strength of achievement motive and work out put of elementary school children. Stanford, California: Stanford University (U.S. Off. of Education Corp. Research Project No. 873), 1963.

Waxler, N. and Mishler, E. Experimental Studies of families. Advances Exper. Soc. Psychol. 5: 249-304, 1970.

Weiss, R.L., Hops, H. & Patterson, G.R. A Framework for conceptualizing marital conflict, a technology for altering it, some data for evaluating it, in Clark, F. & Hamerlynck, L. (eds.) Critical Issues in Research and Practice: Proceedings of the Fourth Banft International Conference on Behavior Modification, Champaign, Ill., Research Press, 1973.

Weiss, R. and Margolin, G. Marital conflict and accord in A.R. Ciminero, K.S. Calhoun, and H.E. Adams (Eds.), Handbook for Behavioral Assessment. New York: John Wiley and Sons, Inc. 1977.

Wills, T.A., Weiss, R.L. and Patterson, G.R., A behavioral analysis of the determinants of marital satisfaction, J. Consult. Clin. Psychol., 42: 802-811, 1974.

Reiss, David. Varieties of Consensual Experience: III. Contrasts Between Families of Normals, Delinquents and Schizophrenics. Journal of Nervous and Mental Disease, Vol. 152, No. 2, 1971.

SUMMARY

The Home Observation Assessment Method (HOAM) is a new method developed to carry out objective coding of family interaction over extended time periods in a home setting. It is a computer compatible coding system that permits on-line data reduction of interactional variables emphasizing contextual and structural dimensions of family behavior.

To date, the HOAM has been applied to the study of 31 families observed for a total of over 250 sessions. Initial analysis of data from these sessions indicates that coder reliability is high, and that the HOAM successfully measures dimensions of family behavior independent of architectural aspects of the home setting. Preliminary findings also indicate that although families differ dramatically along the interactional dimensions measured by the HOAM, all families studied spent remarkably little time in decision-making behavior, suggesting that behavior in the home is predominantly "maintenance-oriented."

01296